

REMARKS

Reconsideration of the application in view of the above amendments and the following remarks is respectfully requested.

The Examiner rejects claims 1, 2, 4, 5, 7, 9 and 11 under 35 U.S.C. § 103(a) as being unpatentable over Applicant's admitted prior art in view of Kwong. The Examiner states that Applicant's admitted prior art teaches image pickup element, optical glass furnished on the front surface of the pickup element, a connection member that connects an insulated circuit board (figure 3, element 25) but fails to teach a stacked circuit board that is furnished on the rear surface of the image pickup element that has a wiring pattern and a connection member that electrically connects said image pickup element and the wiring pattern of the stacked circuit board and the stacked circuit board being formed the insulated circuits boards which are packaged electronic circuits that include wiring patterns, stacked in multiple layers that include diametral direction perpendicular to the length direction of the microminiature image pickup device and having a cavity formed as indentation in the diametral direction thereof, a first electronic component mounted in the cavity, and a second electronic component mounted on the surface of said stacked circuit board. The Examiner states that Kwong teaches a stacked circuit board, element 10, that can replace the insulated circuit board 25 to connect the rear surface of the image device. The Examiner states that the stacked circuit has a wiring pattern and will inherently have a connection member that electrically connects the image pickup element and the wiring pattern of the stacked circuit board as disclosed in Applicant's admitted prior art when the insulated circuit 25 is replaced with a stacked circuit board 10 and the stacked circuit board being formed with insulated circuit boards in which are packaged electronic circuits that include wiring patterns which are shown as stacked in multiple layers in the diametral direction perpendicular to the length direction of the microminiature image pickup device with the insulated circuit board 25 of Applicant's admitted prior art as replaced with a stacked circuit board 10 and having a cavity formed as an indentation in the diametrical thereof, a first electronic component mounted in the cavity and a second electronic component mounted on the surface. The Examiner concludes that it would have been obvious to

one skilled in the art at the time of the invention to have been motivated to have a stacked circuit board that is furnished on the rear surface of the image pickup element in order to increase the density of electronic components on a multilayer printed circuit boards as taught by Kwong.

We can not agree. Referring to Figure 1 of Kwong, a non-stacked electronic component 18 is shown for comparison purposes. This component is shown mounted to the underside of the stacked circuit board 10. Accordingly, using the teachings of Kwong with the cited prior art, would not show the rear surface of the image pickup device being mounted along the edge of the stacked circuit board, but rather along the surface, such as element 18 and Figure 1. The element shown in Applicant's admitted prior art is attached to the top surface of the printed circuit board 25 and not mounted to an edge of the printed circuit board 25. Mounting the image pickup device to the edge of the stacked circuit board, allows a device which is shorter in the length direction to be built, which is a clear advantage of the making of a miniature device, especially for endoscopic use. Furthermore, with the combination of Applicant's admitted prior art and Kwong does not show or suggest that the stacked circuit board have a height substantially equal to a size of the rear surface where the stacked circuit board meets the rear surface but has a lower height at other points along the length direction of the stacked circuit board, that is clearly shown in Figures 1 and 2 of the present application.

Claim 1 has been amended in order to recite that the image pickup element is mounted to the stacked circuit board along an edge. New claims 12 and 13 have been added in order to recite that the microminiature image pickup device is an endoscope. New claims 14-17 have been added which recite that the stacked circuit board has a height in the diametral direction substantially equal to a size of the rear surface of the image pickup device where the stacked circuit board meets the rear surface and that the height is reduced in size at other points along the length direction.

The Examiner rejects claims 3, 6, 8 and 10 under 35 U.S.C. § 103(a) as being unpatentable over Applicant's admitted prior art in view of Kwong and further in view of Yamashita.

These claims are dependent directly or indirectly on Claim 1. The patentability of Claim 1 having been shown above, these claims are patentable for the same reasons.

According, Applicants believe the Application, as amended, is in condition for allowance, and such action is respectfully requested.

Respectfully submitted,

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